

IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R. §1.121.

1. (previously presented) An ultrasonic probe comprising an array of MUT cells and a curved lens coupled to the array of MUT cells.

2. (previously presented) The probe as recited in claim 1, wherein the curved lens is adhered to the array of MUT cells, and a planar substrate, the MUT cells being built on the substrate.

3. (previously presented) The probe as recited in claim 2, further comprising a layer of adhesive material between the curved lens and the array.

4. (previously presented) The probe as recited in claim 3, further comprising a barrier layer disposed between the layer of adhesive material and the array of MUT cells, the barrier layer being made of a material that prevents chemical diffusion from the curved lens to the MUT cells.

5. (cancelled)

6. (previously presented) The probe as recited in claim 1, wherein the array comprises a first multiplicity of MUT cells hard-wired together and a second multiplicity of MUT cells hard-wired together.

7. (previously presented) The probe as recited in claim 6, wherein the MUT cells of the first multiplicity are arranged side by side and cover a generally rectangular

area, the length of the rectangle being aligned with an elevation direction, the curved lens being curved in the elevation direction.

8. (previously presented) The probe as recited in claim 2, wherein the lens is cylindrical, multifocal or elliptical.

9. (previously presented) The probe as recited in claim 2, further comprising adhesion promoting material applied on a front face of the array, a rear face of the curved lens, or both.

10. (cancelled)

11. (previously presented) The probe as recited in claim 2, wherein the curved lens is made of a polymeric material.

12. (previously presented) The probe as recited in claim 11, wherein the curved lens is made of silicone rubber and the adhesive material is made of room-temperature vulcanizing silicone rubber.

13. (previously presented) The probe as recited in claim 9, wherein the adhesion-promoting material is a silicate.

14. (previously presented) The probe as recited in claim 9, wherein the adhesion-promoting material is an organometallic.

15. (previously presented) The probe as recited in claim 9, wherein the adhesion-promoting material is a reactive organosilane.

16. (previously presented) The probe as recited in claim 1, wherein each of the MUT cells is a capacitive MUT cell.

17. (previously presented) The probe as recited in claim 1, wherein each of the MUT cells is a piezoelectric MUT cell.

18. (previously presented) The probe as recited in claim 1, ~~further~~ comprising:
a layer of CMOS electronics below the array of MUT cells; and
a silicon substrate below the layer of CMOS electronics.

19.-38. (cancelled)

39. (previously presented) An integrated device comprising:
a curved lens;
a first multiplicity of MUT cells hard-wired together and disposed underneath the curved lens;
a second multiplicity of MUT cells hard-wired together and disposed underneath the curved lens;
CMOS electronics disposed underneath the first and second multiplicities of MUT cells; and
a silicon substrate disposed underneath the CMOS electronics.

40. (previously presented) The device as recited in claim 39, wherein each of the MUT cells is a capacitive MUT cell.

41. (previously presented) The device as recited in claim 39, wherein each of the MUT cells is a piezoelectric MUT cell.

42. (previously presented) The probe as recited in claim 1, wherein the curved lens is coupled to the array of MUT cells in at least close proximity or direct contact with membranes of the MUT cells.

43. (cancelled)

44. (previously presented) The device as recited in claim 39, wherein the curved lens is coupled to the first and second multiplicities of MUT cells in at least close proximity or direct adhesion with membranes of the MUT cells.

45. (previously presented) An ultrasonic probe, comprising:
a plurality of micromachined ultrasonic transducer cells;
a curved lens coupled in at least close proximity or directly to membranes of the plurality of micromachined ultrasonic transducer cells.

46. (previously presented) The ultrasonic probe as recited in claim 45, comprising one or more generally thin layers of adhesive and protective materials disposed between the curved lens and the membranes of the plurality of micromachined ultrasonic transducer cells.